SHOGAM, S.M.

Mechanism of the preparation of powder-type insecticides and ways of intensifying their production. [Trudy] NIUIF no.156: 5-18 '55. (MLRA 9:10)

(Insecticides)

SHOGAM, S.M.; BEZZUB, K.Ye.

Basic factors determining the quality of DDT dusts. [Trudy] NIUIF no.156:18-22 '55. (MLRA 9:10)

(DDT (Insecticide))

SHOGAM, S.M.

Degree of dispersion in DDT and hexachloro-cyclohexane powders and dusts. Fractional distribution of the active principle in dusts. [Trudy] NIUIF no.156:22-30 '55. (MLRA 9:10)

(DDT (Insecticide)) (Benzene hexachloride)

SHOGAM S. M.

2

/ Development of a kinetic method for determination of γ-isomer of hexachloran in dusts and enriched preparations. S. M. Shogam and F. I. Fen'kova. *Trudy, Nauch. Inst. Udobren. i Insektofungicid. im. Ya. V. Samoilova* 1955, No. 150, 30–6.—La Chair's procedure is improved as follows: (1) two 0.1000 g. samples of BHC are dissolved, each in 50 ml. of 95% EtOH, by boiling gently 15–20 min.; (2) both solns. are cooled and placed for 2 hrs. in ice, together with 2 test tubes, each contg. 10 ml. of 0.1*N* alc. KOH, previously freed from carbonates by long standing and careful decantation; (3) the BHC and KOH solns. are mixed and both samples shaken continuously for 8–10 min.; then sample *1* is shaken periodically for an addnl. 7–5 min., sample *2* for an addnl. 42–40 min., without removing them from ice. Then 10 ml. of dild. (1:3) HNO_3 is added to each sample and the liberated Cl ion is titrated, following Volhard's procedure. The γ-isomer is calcd. from the equation γ-isomer % = 25.3 (*a*–*b*) − 14.3, where *a* is the ml. of 0.1*N* $AgNO_3$ soln. used up in binding Cl ion in sample *2*; *b* being the same for sample *1*. Deviations from the data obtained chromatographically are 0.3–1.5% for tech. BHC, 0.5–2.5% for enriched prepns., and 0.01–0.15% for dusts. When products are rich in oil (> 50%), the equation γ-isomer % = 24.4 (*a*–*b*) − 17 is used. 2 references. J. Vehra

SHOGAM S M

"Methods of Obtaining Powdered Poisonous Chemicals," by S. M. Shogam and V. I. Orlov, Khimicheskaya Promyshlennost', No 8, Dec 56, pp 474-476

The authors ran tests on a laboratory scale to determine optimum conditions for pulverizing insecticide materials consisting of the chemical agent and a filler (clay, talc, etc.). The chemical agents used were DDT in combination with chlorotene or with hexachlorocyclohexane.

If rod mills are used in place of ball mills, the pulverization process is intensified and there is less lumping of the product even when liquids are used. The use of rod mills also makes it possible to prepare concentrated powders for use as aqueous suspensions without the necessity of adding expensive surface-active agents such as sulfonol or OP-7. It is only necessary to add 15% sulfite liquor to obtain satisfactory powders containing up to 30% technical grade hexachlorocyclohexane. Preparation of dusts containing agglomerizing fillers such as kaolin can be carried out in rod mills without separation of the product.

Sum 1305

SHOGAM, S.M.; FEN'KOVA, Ye.I.; GAR, K.A.; POSLAVSKIY, Yu.M.; GOLUBEVA, Z.Z.

Investigation of fillers and selection of appropriate machinery for the production of new organic powder insecticides. [Trudy] NIUIF no.164:3-5 '59. (MIRA 15:5)

(Insecticides)

SHOGAM, S.M.; FEN'KOVA, Ye.I.; EPSHTEYN, T.B.

Physicochemical methods for determining the γ-isomer of hexachlorocyclohexane in various preparations. [Trudy] NIUIF no.164:35-36 '59. (MIRA 15:5)

(Benzene hexachloride)

SHOGAM, S.M.; ORLOV, V.I.; EPSHTEYN, T.B.; SIDOROVA, S.V.; FEN'KOVA, I.Ye.

Fillers for insecticidal dusts and methods of studying them. (MIRA 13:8)
[Trudy] NIUIF no.165:36-45 '59.
(Insecticides)

SHOGAM, S.M.; ORLOV, V.I.

Efficient system of producing DDT and GKhTsG dusts. [Trudy] NIUIF no.165:46-51 '59. (MIRA 13:8)
(Insecticides)

SHOGAM, S.M.; TOMICHEVA, M.V.; LEZINA, T.A.; SUKHANOVA, Ye.N.; KOROBOVA, I.V.; MAKHNEV, Yu.A.

Introducing the kinetic method of determining gamma-isomers of hexachlorocyclohexane in dusts of hexachlorocyclohexane. [Trudy] NIUIF no.165:52-62 '59. (MIRA 13:8)

1. Predpriyatiye khimicheskoy promyshlennosti.
(Cyclohexane)

SHOGAM S.M., SIDOROVA, S.V.

Distribution of the dimensions of particle diameters in powders and the dispersity of dusts by means of air dusting. [Trudy] NIUIF no.165:63-67 '59. (MIRA 13:8)
(Insecticides)

~~S.U.., O...~~, kand.khimicheskikh nauk; FEL'KOV.., Y..., ; Y... ..KO, I.A.;
EPSHTEYN, T.B.

Insecticide powders, duts and granulated insecticides. Zhur.
VKHO 5 no. 3:312-317 '60. (MIRA 14:2)
(Insecticides)

SHOGAM, S.M.

Chemistry and technology of calcium arsenate. [Trudy] MIUIF no.167:43-72 '60. (MIRA 13:8)
(Calcium arsenates) (Insecticides)

SHOGAM, S.M.; VOL'FSON, L.G.; YEFIMENKO, I.A.

Method for determining heptachlor in a technical product. (MIRA 15:7)
[Trudy] NIUIF no.171:49-51 '61.
(Heptachlor)

SHOGAM, S.M.; YEFIMENKO, I.A.; NIKIFOROVA, N.M.; MEL'NICHENKO, E.L.

Chromatographic analysis of heptachlor. Zhur.anal.khim. 17 no.2:260-262 Mr-Ap '62. (MIRA 15:4)

1. Nauchnyy institut po udobreniyam i insektofungisidam imeni Ya.V. Samoylova, Moskva.
(Heptachlor) (Chromatographic analysis)

SHOGAM, S.M.; ORLOV, V.I.; FEN'KOVA, Ye.I.

Mineral substances used as fillers for powdered insecticides.
Trudy IGEM no.95:113-119 '63. (MIRA 16:12)

SHOGENOV, A.

Business accounting in the Office of Grain Procurement. Muk.-elev. prom. 22 no.4:12-16 Ap '56. (MLRA 9:8)

1. Zamestitel' upravlyayushchego Kabardinskoy respublikanskoy kontoroy Zagotzerno.
(Grain trade--Accounting)

SHOGENOV, A.

Some problems in labor organization at grain procurement stations.
Muk.-elev.prom. 23 no.5:8-12 My '57. (MLRA 10:9)

1. Kabardino-Balkarskaya respublikanskaya kontora Rosglavzerno.
(Grain handling)

ROZENTUL, M.A., prof.; VASIL'YEV, T.V.; YEGOROV, G.I.; MASLOV, P.Ye.; RAKHMANOVA, N.V.; KHAMAGANOVA, A.V.; SHOGINA, M.P.

Bicillin-3 in the treatment of syphilis. Vest.derm.i ven. no.11:35-39 '61. (MIRA 14:11)

1. Iz otdela sifilidologii (zav. - prof. M.A. Rozentul) TSentral'nogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. - dotsent N.M. Turanov) Ministerstva zdravookhraneniya RSFSR.

(SYPHILIS) (BICILLIN--THERAPEUTIC USE)

BALKANDZHIEV, Rosen, inzh.; SHOILEV, G'ora, inzh.

Analysis of circuits for decreasing electric-power consumption of welding converters. Tekhnika Bulg 12 no. 10:15-18 '63.

SHOILEV, I.

Cabinets for agrotechnic and zotechnic propaganda. p.4.
(MASHINIZIRANO ZEMEDELIE, Vol. 8, no. 5, May 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

SHOPEV, I

"They Introduced Complete Mechanization for Cleaning, Weighing, and Transporting the Grain from the Combines."

p. 37 (Kooperativno Zemedelie, No. 7, July 1958, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 11
Nov. 1958

SHOK, M.M.

ROZHNOV, Vladimir Yevgen'yevich, kandidat meditsinskikh nauk; BERNYUMOV, O.M., redaktor; SHOK, M.M., redaktor; DMITRIYEVA, R.V., tekhnicheskiy redaktor

[Hypnosis and suggestion in medicine] Gipnoz i vnushenie v meditsine. Moskva, Izd-vo "Znanie," 1955. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii, Ser. 3, no. 28) (MLRA 8:10)

(HYPNOTISM--THERAPEUTIC USE)
(THERAPEUTICS, SUGGESTIVE)

SHOKAL'SKAYA, Z. Yu. DECEASED 1963/1

c. 1961

GEOGRAPHY

See ILC

SHOKAL'SKIY, B.V.

Projection of a complex image in perspective. Trudy IPI no.18:191-197 '63.

Solution of certain problems in perspective on an inclined plane. Ibid.:198-203 (MIRA 17:6)

SHOKAN, Zdenek V. MUDr

Madelungova deformita. Prakt. lek., Praha 35 no.5:115-116 5 Mar 55.

1. Z roentgenol. odd. Statni fakultni nemocnice v Praze XII.
Prednosta doc. Dr. Roman Blaha
(RADIUS, diseases
Madelung's deformity)

L 21948-66

ACC NR: AP6014628 SOURCE CODE: UR/0242/65/000/008/0050/0051

14
5

AUTHOR: Shokanbayev, A. N. (Aspirant)

ORG: Department of Pathological Physiology /headed by Prof. I. P. Mishchenko/, Samarkand Medical Institute (Kafedra patologicheskoy fiziologii Samarkandskogo meditsinskogo instituta)

TITLE: Time lapses before the appearance of serological activity after burns

SOURCE: Meditsinskiy zhurnal Uzbekistana, no. 8, 1965, 50-51

TOPIC TAGS: antibody, injury, antigen

ABSTRACT: The article contains a study of various laboratory animals with experimental burns over 9-11% of the body and 10 patients with second and third degree burns (over 10-20% of the body). Complement-fixing antibodies which reacted non-specifically with tissue antigens appeared in the blood in most cases within 3-4 hours after the burn was inflicted. Selectivity to antigen from the burned skin appeared 4-7 days later. [JPRS]

SUB CODE: 06 / SUBM DATE: 30Nov64 / ORIG REF: 003

2

Card 1/1 ULR

NAYMARK, L.E.; CHALYCH, P.N.; SHOKANOV, A.

Quantitative spectrographic determination of beryllium and scandium in products of the treatment of beryllium-bearing ores. Izv.AN Kazakh.SSR.Ser.met.obog.i ogneup. no.1:85-89 '59. (MIRA 13:4)
(Beryllium--Spectra) (Scandium--Spectra)

SHOKANOV, N.; SHOLAKOV, Sh.

Some problems in ensiling feed in Kazakhstan. Vest. AN Kazakh.SSR 16 no.6:8-13 Je '60. (MIRA 13:7)
(Kazakhstan--Ensilage)

S/137/62/000/004/029/201
A006/A101

AUTHORS: Yudelevich, I. G., Shokarev, M. M., Sosnovskaya, T. I., Stanevich, V. V., Alontseva, N. T.

TITLE: Spectrographic control of tellurium production

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 28, abstract 4G178 (V sb. "Nekotoryye vopr. emission. i molekulyarn. spektroskopii", Krasnoyarsk, 1960, 126-133)

TEXT: Detailed information is presented on methods of determining Te in semi-products of Pb-manufacture and admixtures in commercial Te. For products containing 0.01 - 0.05% Te, the arc method of exciting the spectra is recommended with admixture of 7% $Bi(NO_3)_3$. To determine high Te contents (up to 10%) spark excitation of spectra is used on a mixture of samples with Cu powder in a 1 : 3 ratio, after briquetting under a pressure of 3,000 kg/cm^2. To determine admixtures in Te, it is evaporated without a buffer from a carbon electrode crater of 5 mm depth and 4 mm in diameter. Graduation graphs are given. There are 5 references.

A. Tseydler

[Abstracter's note: Complete translation]

Card 1/1

S/081/62/000/013/009/054
B158/B144

AUTHORS: Yudelevich, I. G., Shokarev, M. M., Sosnovskaya, T. I., Stanevich, V. V., Alontseva, N. T.

TITLE: Spectrographic control of tellurium production

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1962, 154, abstract 13D150 (Sb. "Nekotoryye vopr. emission. i molekulyarn. spektroskopii". Krasnoyarsk., 1960, 126-133)

TEXT: The determination of Te in intermediate products from lead production and of impurities in tellurium is described. A strong effect of the overall composition of the samples on the results of the analyses was established. As a result, several sets of synthetic standards are being prepared. At a Te concentration of 0.01-0.05%, the sample is diluted by double the amount of carbon dust, 7% Bi being introduced as $Bi(NO_3)_3$, and is evaporated from the crater of a carbon electrode 4 mm in diameter and in depth. The spectra are excited for 60 sec in an alternating current arc at 8 amp with an arc gap of 3 mm and are photographed on an ИСП-28 (ISP-28) spectrograph with an aperture of 2μ. For determination of

Card 1/3

Spectrographic control of tellurium ...

0.5-10% Te, the sample is mixed with copper dust (1:3) and is briquetted under a pressure of 3000 kg/cm^2. The briquette of 4 mm dia. and 4-6 mm in height is clamped in tongs. The spectra are excited in a high voltage condensed spark from an ИГ-2 (IG-2) generator at a current of 1.6 amp, self-induction of 0.15 mA, capacity 0.01 μfarad, auxiliary and analytical gap 3mm; the upper electrode is carbon. Industrial samples are used as standards. Graphs are constructed in coordinates ΔS, log C for low concentrations along lines Te 2385-Bi2400 Å and for high concentrations Tl 2385-Cu 2356 Å. The mean analytical error is 5-10%. Impurities in the tellurium are determined by lines: Cu 3274, Al 3082, Fe 3057, Si 2881, and Pb 2873 Å with a line of comparison Bi 2898 Å, Se 2062 with line Te 2070 Å and Na 5884 with the background. For the determination of Se, type 3 "spectral" plates are used. An exposure of 90 sec is made up from 3 ignitions of the samples in the channel of the electrode at a current of 16 amp. For the remaining elements, type 1 or 2 "spectral" plates are used and at the same time a "panachrome" for Na. The standards and samples are mixed with carbon dust (1:1) and evaporated from a carbon electrode with an alternating current arc-discharge. The mean analytical error is

Spectrographic control of tellurium ... S/081/62/000/013/009/054
B158/B144

6-10%. [Abstracter's note: Complete translation.]

Card 3/3

VRUBLEVSKIY, V.I., inzh.; KRYZHANOVSKIY, O.M., inzh.; PANASYUK, L.S., inzh.; RAVICH, K.S., inzh.; SHCHUR, A.G., inzh.; GARNAZHENKO, I.O., inzh.; LEBEDEV, Ye.I., inzh.; PSAREV, A.M., inzh.; SALATSINSKIY, V.V., inzh.; SHOKAREV, V.A., inzh.

Over-all mechanization and automation of the compsition of charge. Mashinostroenie no.6:45-47 N-D '62. (MIRA 16:2)

1. Institut liteynogo proizvodstva AN UkrSSR (for Vrublevskiy, Kryzhanovskiy, Panasyuk, Ravich, Shchur). 2. Toretskiy mashinostroitel'nyy zavod (for Garnazhenko, Lebedev, Psarev, Salatsinskiy, Shokarev).
(Cast iron—Metallurgy) (Automation)

SHOKH, B.P.

Streptococcal antihyaluronidase in rheumatic fever in certain other diseases in children. [with summary in English] Pediatriia 36 no.7 38-43 Je '58 (MIRA 11:7)

1. Iz kafedry fakul'tetskoy pediatrii (zav. prof. P.A. Ponomareva) II-go Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (dir. prof. O.V. Kerbikov).

(RHEUMATIC FEVER, blood in,
streptoc. antihyaluronidase (Rus))
(PURPURA, in infant and child,
blood streptoc. antihyaluronidase (Rus))
(TONSILLITIS, blood in
streptoc. antihyaluronidase activity (Rus))
(HYALURONIDASE, antagonists,
blood streptoc. antihyaluronidase activity in rheum. (Rus))

SHOKHAN, N.

Training is a pledge of victory. Kryl. rod. 15 no. 4:13 Ap '64.
(MIRA 17:5)

1. Starshiy inspektor-letchik Upravleniya aviatsionnoy podgotovki i aviatsionnogo sporta TSentral'nogo komiteta Vsesoyuznogo dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.

SHOKHAN, N.

A hard nut. Kryl. rod. 15 no.5:11 My '64. (MIRA 17:8)

1. Starshiy inspektor Upravleniya aviatsionnoy podgotovki i aviatsionnogo sporta TSentral'nogo komiteta Vsesoyuznogo dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.

SHOKHAN, N.

Under the banner of the All-Union Volunteer Society for Assistance to the Army, Navy and Air Force. Kryl. rod. 15 no.12:17-18 D '64. (MIRA 18:3)

L 46046-66 EWP(j) RM

ACC NR: AT6034090 SOURCE CODE: HU/2502/65/044/003/0327/0340

AUTHOR: Kormendy, Karoly--Kermendi, K. (Doctor); Sohar, Pal--Shokhar, P. (Doctor) 32 B+1

ORG: Institute of Organic Chemistry, Eotvos Lorand University (Eotvos Lorand Tudomanyegyetem, Szerves Kemiai Intezet); Pharmaceutical Research Institute, Budapest (Gyogyszeripari Kutato Intezet)

TITLE: Heterocyclic spiro compounds IV. Preparation of 2-N-alkyl-, and aryl-spiroxazone derivatives

SOURCE: Acta chimica academiae scientiarum Hungaricae, v. 44, no. 3, 1965, 327-340

TOPIC TAGS: alkylation, heterocyclic base compound

ABSTRACT: [English article, authors' English summary modified] When treated with primary and secondary alkyl-halogenides in the presence of an equivalent amount of sodium ethoxide, a 2-N-alkyl derivative is formed from spiroxazone, a compound of acidic character, with a loss of solubility in alkaline media. Alkylation does not take place with tertiary butyl bromide or ethylene bromide because of a predominance of a side reaction which consumes sodium ethylate. On treatment with tetramethylene bromide, sodium spiroxazonate yields 2-N-bromo-butyl-, and α,δ-tetramethylene-bis-spiroxazone. On nitrosation, the NH group of the oxazolidine ring undergoes reaction to form 3'-nitrosamine. 2-N-Alkyl-(aryl)-spiroxazone is converted into the 4-O-mono-acylated when acylated in pyridine, and yields the 3'-N,4-O-diacetate when boiled with acetic anhydride. The products obtained by the alkylation of spiroxazone and by synthesis from the mono-substituted hydrazine were found to be identical. Orig. art. has: 4 tables. [JPRS: 33,540]

SUB CODE: 07 / SUBM DATE: 16Oct64 / ORIG REF: 007

Card 1/1

NIKITIN, A.N.; KLEYN, Yu.S.; SHOKHAREVA, V.I.

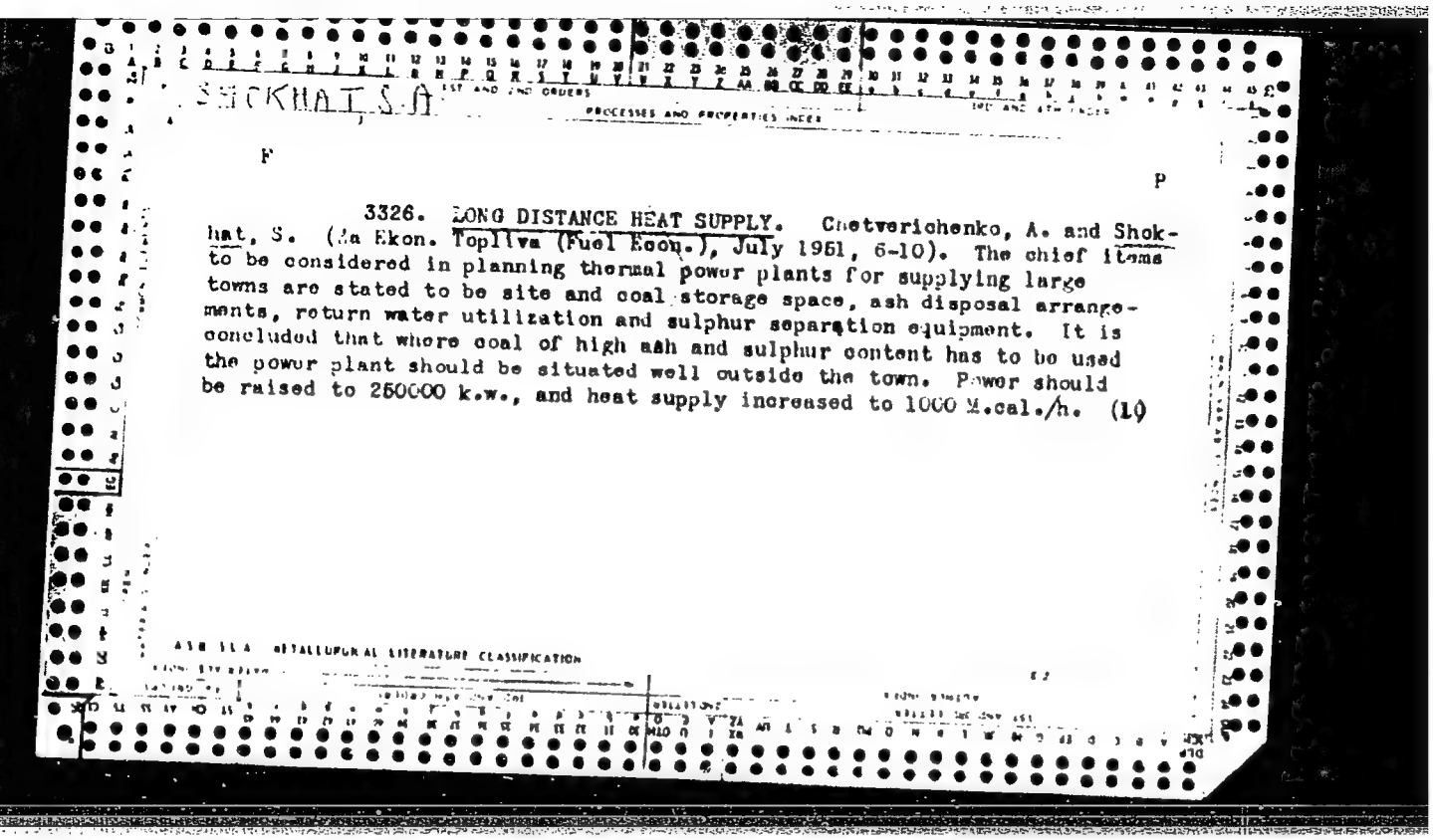
Phagocytic index in combined therapy of dysentery. Zhur. mikrobiol.epid. i immun. no.11:67-69 N '55. (MLRA 9:1)

1. Iz Vologodskogo oblastnogo otdeleniya perelivaniya krovi (nach-zasluzhennyy vrach RSFSR A.N.Nikitin), Vologodskoy gorodskoy ob"edinennoy bol'nitsy (glavnyy vrach S.F.Shvarev) i Vologodskoy gorodskoy infektsionnoy bol'nitsy (glavnyy vrach N.D.Denisyuk)

(DYSENTERY, BACILLARY, therapy,
chemother, combined, eff. on phagocytic index)
(PHAGOCYTOSIS, in various diseases,
dysentery, bacillary, eff. of combined chemother)

SHOKIN, L. A. and KONIN, A. S.

"Methods of Analyzing Experimental Data", Izdatel'stvo Inostrannoy Literatury, 364 pp, 1950.



SHOKHAT S.A

PROCESSES AND PROPERTIES INDEX

F

P

3326. LONG DISTANCE HEAT SUPPLY. Chetverichenko, A. and Shokhat, S. (Za Ekon. Topliva (Fuel Econ.), July 1961, 6-10). The chief items to be considered in planning thermal power plants for supplying large towns are stated to be site and coal storage space, ash disposal arrangements, return water utilization and sulphur separation equipment. It is concluded that where coal of high ash and sulphur content has to be used the power plant should be situated well outside the town. Power should be raised to 250000 k.w., and heat supply increased to 1000 M.cal./h. (10

ASM TLA METALLURGICAL LITERATURE CLASSIFICATION

SHOKHAT, S. A.

Fuel Abstracts
June 1954
Steam Raising and
Steam Engines

(1)

✓ 4585. FEED WATER TEMPERATURE. ✓ Shokhat, S.A: (Elekt. Sta. (Pwr Sta., Moscow), Aug. 1953, vol. 24, 13-17). Feed water temperature for all types of high pressure boilers irrespective of the turbine type should be within the range 150-190°C. At the feed water temperature of 150°C existing high pressure boilers should provide the nominal evaporating value while preserving the nominal steam parameters. When modifying a medium pressure power plant for extra high steam parameters the feed water temperature for the extra high pressure boilers must retain the value it had in the medium pressure plant.

D.E.A.

SHOKHINA, O.I.; LUCHITSKIY, I.V., doktor geol.-min.nauk, otv.red.; SHALINA, L.V., red.; MAZUROVA, A.F., tekhn.red.

[Alkali rocks of the Bulan-kul' massif (Krasnoyarsk Territory)] Shchelochnye porody Bulan-Kul'skogo massiva (Krasnoiarskii krai). Novosibirsk, Izd-vo Sib. otd. AN SSSR. 1961. 68 p. (Akademiia nauk SSSR. Sibirskoe otdelenie. Institut geologii i geofiziki. Trudy, no.10). (MIRA 15:11)

1. Zaveduyushchiy Krasnoyarskoy kompleksnoy laboratoriyey Instituta geologii i geofiziki Sibirskogo otdeleniya AN SSSR (for Luchitskiy).
(Bulan-kul' Lake region--Rocks, Igneous)

SHOKHMAN, Ya.D., kand.med.nauk

Compression fracture of five thoracic vertebrae in a 12-year-old child with tetanus. Vest. khir. 93 no.12:94-95 D '64. (MIRA 18:5)

1. Iz filiala Novosibirskogo nauchno-issledovatel'skogo instituta ortopedii i travmatologii (dir. - K.G.Nirenburg).

ZAKAZNOV, Nikolay Petrovich; SIKACHEV, V.A., retsenzent; SHOKIN, S.P., red.

[Shutters for aerial photography cameras] Zatvory aerofotoapparatov. Moskva, Nedra, 1965. 84 p. (MIRA 18:8)

SHOLIN, Yu.P.

Investigating the physicomechanical properties of the common salt of the Bunkunchak deposit. Sbor. nauch. trud. UkrNIISol' no.7:24-29 '64 (MIRA 18:1)

PROTSENKO, P.I.; SHOKINA, O.N.

Specific gravities and molar volumes of the ternary system consisting of the nitrites of sodium, potassium, barium. Zhur. fiz. khim. 36 no.3:474-479 Mr '62. (MIRA 17:8)

1. Rostovskiy gosudarstvennyy universitet.

ZASLAVSKIY, David Iosifovich; KOVTUN, Yu., red.; PROTSKO, L., mladshiy red.; SMIRNOV, G., tekhn. red.

[International significance of the Soviet seven-year plan] Mezhdunarodnoe znachenie sovetskoi semiletki. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1961. 69 p. (MIRA 14:12)
(Russia—Economic policy)

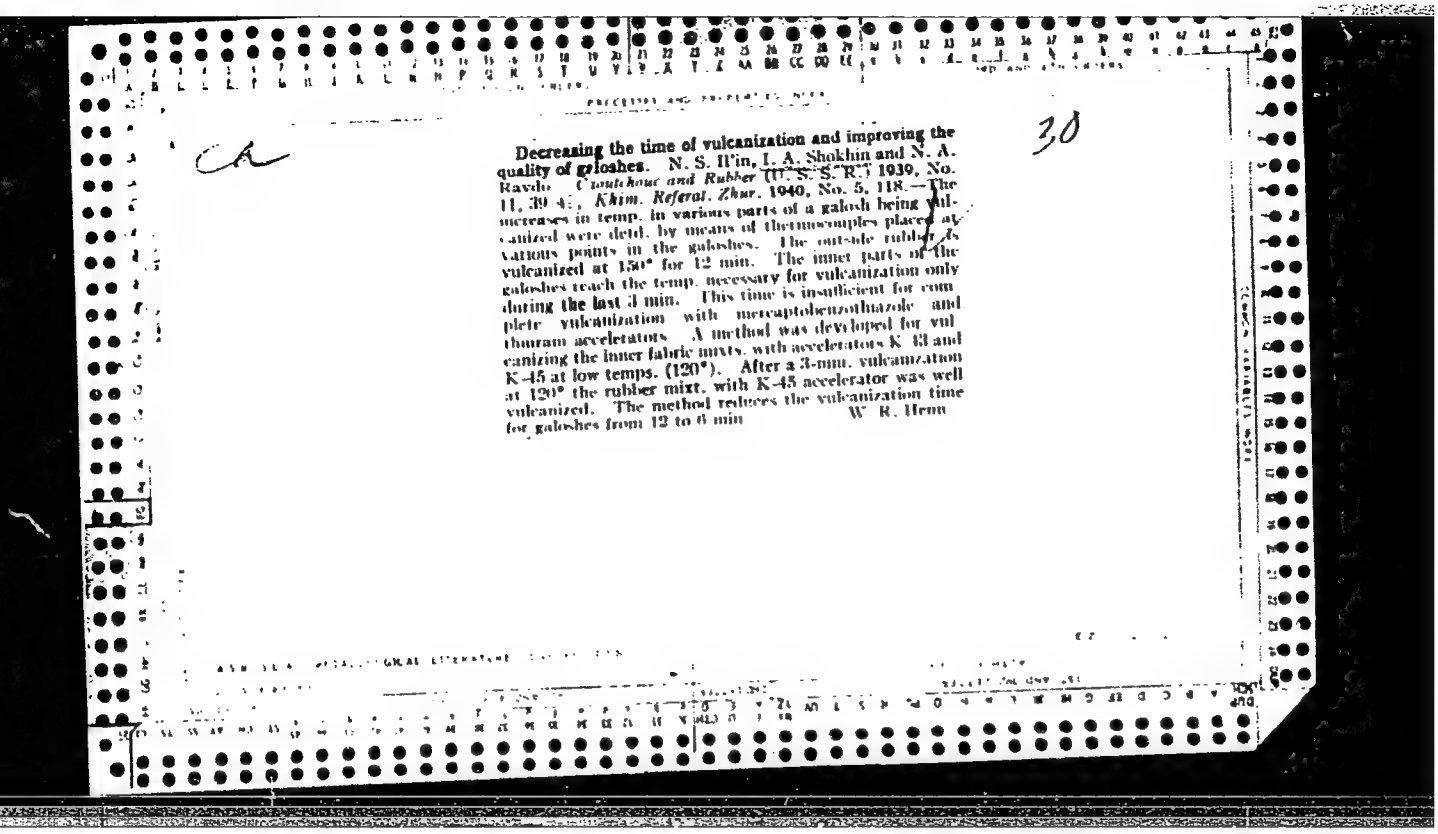
BESSONOV, S.A.; VASIL'KOV, N.P., kand. ekon. nauk; VLASOV, V.A., kand. ekon. nauk; GLUKHAREV, L.I., kand. ekon. nauk; DANILEVICH, M.V., doktor ekon. nauk; ZHAMIN, V.A., doktor ekon. nauk, prof.; ZAKHMATOV, M.I., kand. ekon. nauk; KURAKIN, N.A., kand. ekon. nauk; PANOV, V.P.; SMIRNOV, G.V., kand. ekon. nauk, dots.; TRIFONOV, V.I., kand. ekon. nauk; TYAGAY, Ye.Ya.; FAMINSKIY, I.P.; KHODOV, L.G.; SHMIDT, G.A., kand. ekon. nauk, dots.; SHMIGOL', N.N., kand. ekon. nauk, dots.; MATSUK, R.V., red.; GARINA, T.D., tekhn. red.

[The economy of foreign countries; the capitalistic system of the world economy after the Second World War]Ekonomika zarubezhnykh stran; kapitalisticheskaia sistema mirovogo khoziaistva posle Vtoroi Mirovoi voiny. Pod red. V.A.Zhamina. Moskva, Vysshaia shkola, 1962. 632 p. (MIRA 16:1)
(Economic history)

ZHAMIN, V.A., prof.; GLUKHAREV, L.I., kand. ekonom. nauk; PUCHKOV, A.N., dotsent, kand. ekonom. nauk; FAMINSKIY, I.P.; KURAKIN, N.A., kand. ekonom. nauk; IVANOV, N.N., kand. ekonom. nauk; SMIRNOV, G.V., dotsent, kand. ekonom. nauk; VASIL'KOV, N.P., kand. ekonom. nauk; VASIL'KOV, N.P., kand. ekonom. nauk; LUK'YANOVA, M.I., prof., doktor ekonom. nauk; OZIRA, V.Yu., red.; LAZAREVA, L.V., tekhn. red.

[Characteristics of developing industrial production in capitalist countries] Osobennosti razvitiia promyshlennogo proizvodstva v kapitalisticheskikh stranakh. Pod red. V.A.Zhamina. Moskva, Izd-vo Mosk. univ., 1961. 239 p. (MIRA 15:2)

1. Moscow. Universitet. Ekonomicheskiy fakul'tet. Kafedra ekonomiki zarubezhnykh stran.
(Industry)



Decreasing the time of vulcanization and improving the quality of galoshes. N. S. Il'in, I. A. Shokhin and N. A. Ravdo. *Caoutchouc and Rubber* U. S. S. R. 1939, No. 11, 39-43; *Khim. Referat. Zhur.* 1940, No. 5, 118.—The increases in temp. in various parts of a galosh being vulcanized were detd. by means of thermocouples placed at various points in the galoshes. The outside rubber is vulcanized at 150° for 12 min. The inner parts of the galoshes reach the temp. necessary for vulcanization only during the last 3 min. This time is insufficient for complete vulcanization with mercaptobenzothiazole and thiuram accelerators. A method was developed for vulcanizing the inner fabric mixts. with accelerators K-43 and K-45 at low temps. (120°). After a 3-min. vulcanization at 120° the rubber mixt. with K-45 accelerator was well vulcanized. The method reduces the vulcanization time for galoshes from 12 to 6 min. W. R. Henn

SHOKHIN, I. A.

V 9307. Investigations of structural transformations of rubbers ('Kauchuk') 100 to 200°C. A. S. Kuz'minskii and I. A. Shokhin. 'Starenie Kauchukov i Rezin ...', 1950, p. 57-67, 131-2. (VNITO Rezinshchikov Conference, 1950). The authors refer to the Russian literature from Vladimirov (1892) onwards. A method is described for detection of oxygen in polymers on heating from the consumption of phenyl-β-naphthylamine; a method is also given for investigating structural changes during heating in the absence of free oxygen. The paper appears to be a fuller discussion, with many of the same graphs, of the experiments reported by the same authors elsewhere (cf. RABRM Summ. Curr. Lit., 1951, 357; Rubb. Chem. Technol., 1952, 25, 33-5). There are 17 references and the discussion is reported.

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Nature of the structural changes in butadiene rubbers by the action of high temperatures. A. S. Kuz'minskii, I. A. Shokhin, and R. M. Belitskaya. *Doklady Akad. Nauk S.S.S.R.* 74, 725-7(1950).—Under conditions of rigorous exclusion of O on heating in a high vacuum at 200°, the double bond content D in the lateral chains falls linearly with time, the faster the higher the initial D; in 2 different samples of butadiene rubbers, D fell in 12 hrs. from 83 to 50%, and from 50 to 40%, resp. On heating in N at 120 and 200°, the inhibitor (phenyl-β-naphthylamine) is consumed only in the initial stages. That this initial consumption does not depend on the different reactivities of the double bonds in the main end the side chains is demonstrated by the identity of its kinetic curves for samples with different distributions of the double bonds between the main and side chains. On the other hand, admission of a small amt. of O after the consumption of the inhibitor has come to a halt gives rise to renewed fall of the inhibitor content. Consequently, the initial consumption of the inhibitor is due to the presence of traces of O in the rubber. The linear increase in the modulus of elasticity with time of heating goes on far beyond the cessation of the consumption of the inhibitor.

N. Thon

GRACHIN, I. A.

"Investigation of Structural Changes of Rubber at Temperatures of 100-200°." Sub 7 May 51, Moscow Inst of Fine Chemical Technology Imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

Shokhin, I. A.

15. 15

Molecular structure of the rubber component in reclaim. I. A. Shokhin and G. I. Belostotskaya. *Trudy Nauch.-Issledovatel. Inst. Rezin. Prom.* 1955, No. 2, 136-46; *Referat. Zhur., Khim.* 1956, Abstr. No. 14291.—The proportion of sol. and insol. fractions obtained from destruction and regeneration of rubber in rubber materials can serve as an indicator of the intensity of the process. Existing methods of detn. of the $CHCl_3$ ext. are not suitable for this purpose since the calcn. is made on the initial wt. of the regenerate (R) contg. nonrubber admixts. A method is proposed for detn. of the ash fraction by means of extg. with $CHCl_3$ satd. with N_2 after a total elimination of nonrubber admixts. Since chem. methods are inadequate owing to the presence of C, the kinetics and the degree of swelling were studied for the gel fraction as well as the stationary modulus of elasticity. Practically applicable R were investigated. The results obtained by the "dissoln." method are higher in ash fraction (40-45%) than those obtained for R by the method of thermoswelling (10-25%); from indication the tire rubber from SKS-30 is easier to regenerate than that from SKB. Shistous tar has a strong regenerating action; trichlorotliophenol, a good activator, increases the amt. of the ash fraction with a lower amt. of softeners and a decreased devulcanization time. In the ash fraction remains 65-70% of the theoretical no. of double bonds present in the initial rubber material, meaning that only an insignificant no. of double bonds is used up during regeneration. This has a strong bearing on the behavior of R during the following vulcanization process. Investigations of the gel fraction indicate that the spatial net is preserved in the rubber component and that the degree of "loosening" of the net depends on the strength of the attack during regeneration. J. Mloszewska

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Shokhin I. A.

15

Investigation of the technological properties of reclaimed rubber. I. A. Shokhin and L. B. Tikhonovich. *Trudy Nauch.-Issledovatel. Inst. Resin. Prom.* 1955, No. 2, 146–64; *Referat. Zhur., Khim.* 1956, Abstr. No. 8087.—During the mastication of reclaimed rubber on warm rolls (to 50°), its softness increases up to 30% and its elastic recovery decreases up to 80%. The major change occurs in the first 10 min. of mastication, being aided by low temps. A stepwise mastication is recommended or a fast, uninterrupted blending with simultaneous addn. of plasticizers and dispersing agents. This process aids the mixing, improves the homogeneity, the uniformity, and the plasticity of the rubber-reclaim mixts., and decreases their shrinkage and mutual adhesion. This change of properties is noted in the reclaims of both natural and synthetic rubber B. Parallel with the destruction of adsorption bonds during the mastication on the rolls, a breakdown of intermol. bonds of the rubber (gel-fractions, i.e., the weak polysulfide bonds) occurs, which is a continuation of the devulcanization started in the autoclave. The less the destruction in the autoclave, the more intensive is the mastication. N. Vasiliff

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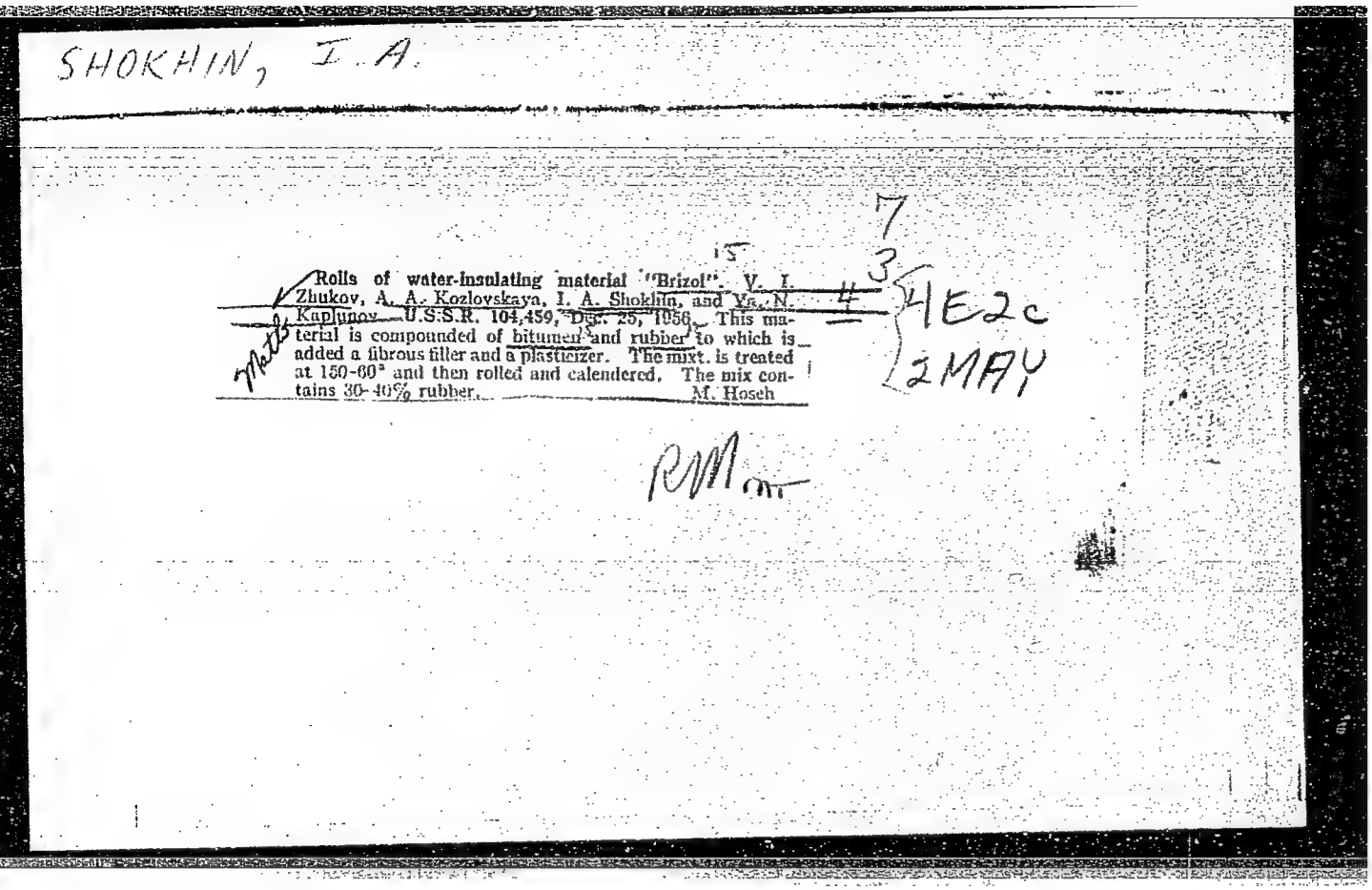
Shokhin, I. A.

The general principles for formulation of rubber mixtures containing reclaimed rubber. I. A. Shokhin, V. L. Tsyplkina, A. L. Kryukova, and E. Ya. Nifontova. *Trudy Nauch.-Issledovatel. Inst. Resin. Prom.* 1955, No. 2, 165–89; *Referat. Zhur., Khim.* 1955, Abstr. No. 8088.—The reclaimed rubber (I) is considered as a mixt. contg. rubber, C black, mineral fillers, and plasticizers. The rubber and C black are similar to the types of virgin rubber and C black being introduced into the mixt.; the mineral filler is chalk. I is vulcanized with 3–3.5% S and 1.5–2% org. accelerator. The C black added to I has the same effect as in mixts. with synthetic rubber. For preservation of the original formulation, the corresponding phys.-chem. characteristics and the technological properties of the mixts., it is recommended when introducing I to take into consideration its components in a ratio 1:1. With this type of formulation, I is equiv. to natural rubber for static deformations. When I and the rubber differ, the properties of the vulcanizate appear to be practically additive depending on their ratio. Normally, the exptl. values are slightly lower than the calcd. This is explained by the fact that the stable and elastic gels of I do not completely combine with the rubber, thus causing lowering of the mech. properties. For dynamic deformations, the mech. properties and efficiency of the rubber-I mixts. are lowered because of nonhomogeneity.

N. Vasileff



SHOKHIN, I. A.

Rolls of water-insulating material "Brizol". V. I. Zhukov, A. A. Kozlovskaya, I. A. Shoklin, and Ya. N. Kaplunov. U.S.S.R. 104,459, Dec. 25, 1956. This material is compounded of bitumen and rubber to which is added a fibrous filler and a plasticizer. The mixt. is treated at 150-60° and then rolled and calendered. The mix contains 30-40% rubber. M. Hoseh

SHOKHIN, I.A.

Structural material from scrap rubber. I. Shokhin and A. Smirnov. *Stroitel. Materialy* 2, No. 10, 9–11 (1956).—Asbestos-ebonite tiles are made by pressing under 400 kg./sq. cm. at 180–190° a mixt. of 39% ground-rubber scrap, 39 asbestos waste, 15 regenerated rubber, 6 ground S, and 1 of vulcanization accelerator. Corrosion-protecting insulating sheets are manufd. by mixing at 145–150° 25–30% ground-rubber scrap, 7–12 low-grade asbestos, and 3–5 plasticizer with 55–65% bitumen and then calendering the mixt. *Relin*, which is a rubber linoleum, is made by changing the above proportions to 25–30% ground-rubber scrap, 25–30 bitumen, 25–30 asbestos or wood flour, 25–30 synthetic rubber. Properties of these materials are given.

I. D. Gaiev

SHOKHDI, I. : TIHONOVICH, L.

"Investigation of the technological qualities of reclaimed rubber."

p. 24 (Leka Promishlenost, Vol. 6, no. 12, 1957, Sofiia, Bulgaria.)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 6, June 1958.

ROGOV, Nikolay Alekseyevich, SHOKHIN, I.A., redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor

[Processing of reclaimed rubber] Proizvodstvo regenerata. Moskva, Gos.nauchno-tekhn.izd-vo khim. lit-ry, 1957. 246 p. (MLRA 10:8)
(Rubber)

SHOKHIN, I.A., kand.khim.nauk (Moskva); SMIRNOV, inzh. (Moskva)

Rubber linoleum. Prom. koop. 12 no.9:27-28 S '58. (MIRA 11:10)
(Linoleum)

SOV/138-59-3-8/16

AUTHORS: Shokhin, I. A. and Kaplunov, Ya. N.

TITLE: Two-Stage Preparation of Homogeneous Regenerated Rubber Mixtures in a High Speed Rubber Mixer (Metod dvukhstadiynogo izgotovleniya odnorodnykh rezino-regeneratnykh smesey v skorostnom rezinosmesitele)

PERIODICAL: Kauchuk i rezina, 1959, Nr 3, pp 33 - 38 (USSR)

ABSTRACT: The possibility of preparing homogeneous regenerated rubber mixtures in a covered rubber mixer by changing the conditions of mixing were investigated (part of the experiments were carried out by O.L.Glushak). It was assumed that the non-homogeneity of rubber mixtures containing regenerated rubber is due to the incorrect mixing of the components. Experiments were carried out on mixtures of tyre rubber prepared from SKS-30A and SKB-NK mixtures; their composition is given in Table 1. Regenerated rubber prepared from tyre rubbers was added to this mixture (Table 2) in quantities of 0, 15, 30 and 45% (Table 3). The rubber-regenerated rubber mixtures were prepared in a 2 litre laboratory mixer. The speed of the rotor of the mixer was 63 rev/min, the friction 1 : 1.19, and a pressure of 6 atm was applied to the

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Two-Stage Preparation of Homogeneous Regenerated Rubber Mixtures in a High-Speed Rubber Mixer

plunger. Tyre mixtures based on SKS-30A and regenerated rubber R-33 were prepared by a one-stage method. The composition of four different mixtures is given in Table 4. Three mixtures based on SKS-30A rubbers containing carbon black and master batches prepared from these mixtures, having similar plastic and elastic properties as the regenerated rubber R-33, were tested (Table 6). The composition of tyre rubbers prepared from these mixtures is shown in Table 7 and identical experiments were carried out on rubber mixtures based on SKB-NK rubbers. The physical and mechanical characteristics of all tyre rubber mixtures, with varying quantities of added regenerated rubber and various methods of addition, are listed in Table 8. The mixtures tend to become more rigid during the two-stage process than during the one-stage process. This is probably due to the better distribution of the

Two-Stage Preparation of Homogenous Regenerated Rubber Mixtures in a High-Speed Rubber Mixer

regenerated rubber in the mixture. Micro-photographs confirm that the two-stage process of mixing produces more homogenous distribution of the regenerated rubber in tyre rubbers. The two-stage process increases the workability during repeated deformation; this is obviously of great importance when considering the quality of car tyres. the effect of the addition of various quantities of regenerated rubber R-33 and R-33NB and the method of introducing them into the mixtures affects the quality of tyre rubbers (Figures 1 and 2). The two-stage method is most suitable when the rigidity of the carbon-black-containing master batch is considerably higher than the rigidity of the used regenerated rubber. There are 2 figures, 8 tables and 6 Soviet references.

SHOKHIN, I.A., kand.tekhn.nauk; KUTSENOK, B.I.

Corrosion-resistant ebonite floor tiles impermeable to mercury. Khim.prom. no.5:430 Jl-Ag '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i TSentral'naya nauchno-issledovatel'skaya laboratoriya "TSnilkhimstroy."

(Tiles) (Rubber goods)

S/138/60/000/012/008/009
A051/A027

AUTHORS: Tsvetayeva, Ye. M., Sidorova, R.I., Drugovskaya, M.N., Shokhin, I.A.

TITLE: Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

PERIODICAL: Kauchuk i rezina, 1960, No.12, pp. 31-34

TEXT: The authors have developed a method for the production of a polymer from rubber oil, which can serve as an active softener in rubber reclaiming. The method also helps to deodorize the rubber oil. Mention is made of the method presently used in the USSR for the production of rubber oil, containing 90% of compounds, which react with strong H_2SO_4 (Ref.2) (Fig. 1). The medium and heavy fractions of the oil contain more of these compounds than the light ones. Since the oil contains 80% of medium and heavy fractions with the greater unsaturation, this product can be processed without preliminary fractionating. The method developed by the authors is described as follows: 98% H_2SO_4 (12 w.p.) is poured into an apparatus

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A051/A027

Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

equipped with a mixer and a jacket, in which the rubber oil (100 w.p.) is vigorously mixed for 20-30 min, at a temperature of 10-25°C in small portions. Then the mixing continues for 2-3 hours more at the same temperature. After holding 4-5 hours the acidic petroleum asphalt is let out of the apparatus and the remaining oil is processed a second time with H_2SO_4 (10 w.p. based on the initial oil). The second asphalt let out after holding of 16-20 hours is mixed with the first one. The purified oil is washed with hot water 3-4 times and is neutralized with a 0.5% solution of NaOH at 60-70°C. Then a second washing with water is done. Due to this processing an oil is produced with an odor of kerosene. The water is separated from the oil by heating for 2-3 hours at 80-95°C. The formed acidic asphalt is washed 4-5 times with hot water and is then neutralized with a 10% solution of NaOH at 60-70°C, whereby the alkali solution is introduced in 4-5 portions. Each portion is about one quarter of the asphalt volume. The reaction of the last rinsing water should be neutral or weakly acidic. The obtained organic

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Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

mass (subsequently called polymer) contains up to 40% of emulsion water, the main quantity of which can be separated after heating for 3-4 hours at 90-95°C. In order to produce a well-deodorized polymer, it is suggested distilling the volatile components at 130-140°C. The described method can be recommended for industrial use. The polymer yield was 46% and the deodorized oil 43% of the initial oil. The deodorized oil as compared to the non-processed one has a lower iodine number and contains less sulfur. The increase in the molecular weight, viscosity, specific gravity and relative content of heavy fractions when processed with sulfuric acid points to the fact that the deodorized oil contains also polymers in addition to unchanged components of the non-processed oil. The latter differ from polymers passed into the asphalt by lesser polarity and unsaturation. A conclusion is drawn that when processing rubber oil with sulfuric acid together with other processes dehydro- and hydropolymerization take place (Ref.3). It was also seen that the deodorized oil contrary to the initial oil contains sulfur in the form of odorless compounds. When heated under atmospheric

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Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

pressure, these sulfur compounds begin to decompose at a temperature of 150°C forming substances with an unpleasant odor. When heating the oil mixture with rubber and rubber chunks even at 190°C no odor is noted. The polymer obtained from the asphalt is found to contain more hetero-atoms (especially sulfur and oxygen) than the non-processed and deodorized oil. In the deodorizing process the quantity of oxygen in the oil even increases somewhat. It is concluded that the increase in the quantity of the hetero--atoms in the polymer can take place as a result of the extraction of compounds with hetero-atoms from the oil with sulfuric acid and the formation of new polar compounds by sulfurization of certain components of the oil. Due to a lower iodine number the deodorized oil differs from the non-processed oil by a lowered masticating action. Both oils do not have sufficient intensifying action due to a low content of polar compounds in them (Ref.4). It is pointed out, therefore, that these oils can be used in rubber reclaiming only in combination with more polar softeners. The polymer is said to

Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

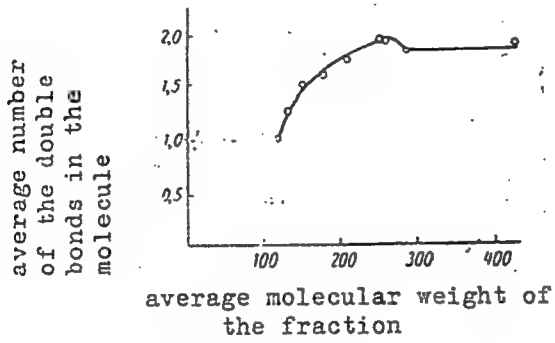
be a very active reclaiming agent, easily used without any addition of other softeners. The reclaimed rubber thus obtained has good physico-mechanical indices and an elevated chloroform extract. It also has a lowered acetone extract. The polymer samples and the deodorized oil were tested at the Chekhovskiy regeneratnyy zavod (Chekhov Reclaiming Plant) under semiindustrial conditions in reclaiming tire rubber by the water-neutral method. The results corresponded well with laboratory findings. It is pointed out that the deodorized rubber oil is not recommended as a universal softener, as it is applicable only to the reclamation of rubber not requiring very large amounts of softener. An estimation of the cost showed that the polymer would be twice as low in cost (1,000 rubles/ton) as the applied combined softener in most plants based on Arkhangel'sk pine resin and fuel oil. There are 5 tables and 4 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i Chekhovskiy regeneratornyy zavod (Scientific Research Institute of the Tire Industry and Chekhov Reclaiming Plant).

S/138/60/000/012/008/009
A051/A027

Synthetic Softeners for the Reclaiming of Rubber Produced From the Products of Its Pyrolysis

Fig. 1 Relationship between the unsaturation of the rubber oil fraction and the molecular weight.



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S/190/61/003/006/008/019
B110/B216

11.2210

AUTHORS: Drozdovskiy, V. F., Shokhin, I. A., Klauzen, N. A.

TITLE: Decomposition of butyl rubber and its vulcanizates under the influence of Co^{60} γ-radiation

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 6, 1961, 852-860

TEXT: In the absence of oxygen, butyl rubber and its vulcanizates decompose under the influence of ionizing radiation (Co^{60} γ-radiation) similarly to polyisobutylene. The present study deals with the decomposition of butyl rubber and its filled sulfuric and unfilled sulfur-free vulcanizates under the action of Co^{60} γ-radiation in presence and absence of oxygen, the influence of radical acceptors on this process and the plastic-elastic and physicomechanical properties of the radiation regenerate. Irradiation was performed at 25°C in air and in vacuo in flat ampoules (150·14·1 mm) by a method described by the last-mentioned author (Ref. 8: Kolloidn. zh., 20, 260, 1958). Composition and properties of the vulcanizates studied are listed in Table 1. Sulfuric vulcanized rubber was swelled in solutions containing 0.238 mole/l phenyl β-naphthylamine and m-dinitro

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Decomposition of butyl rubber and its ...

benzene, 0.238 and 0.12 mole/l butylphenyl disulfide, 0.17 mole/l trichloro-phenyl disulfide and 0.12 mole/l tetramethylthiuram disulfide. The sulfur-free vulcanizate was swelled in benzene containing 0.134 mole/l butylphenyl disulfide. Decomposition was determined by measurement of the relative viscosity change in 0.5 % benzene solutions. Infrared spectra in the 10-13 μ range were taken before and after irradiation with $50 \cdot 10^6$ r in air and in vacuo. After irradiation, the authors carried out osmotic and viscosimetric molecular weight measurements, and determined the modulus at 300 and 500 % elongation, the break resistance, relative elongation, and the swelling maximum in m-xylene and chloroform extract. After irradiation with $20 \cdot 10^6$ r, the sulfuric vulcanized rubber, with and without butylphenyl disulfide, was extracted with acetone and analyzed quantitatively for bound sulfur. The quality of the regenerate was tested by means of Co^{60} γ-radiation, after swelling, and its plastic-elastic properties by rolling for 2 min each in refining and mixing rolls. The value of η_{spec}/c decreases during irradiation of benzenic rubber solutions in air and in vacuo (Fig. 1). Irradiation with $20 \cdot 10^6$ r reduces the viscosimetric molecular weight, calculated according to Fox (Ref. 10: T. G. Fox, P. J. Flory: J. Phys. Coll. Chem., 53, 197, 1949), from

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Decomposition of butyl rubber and its...

264,000 to 41,000. In practice, the decomposition of butyl rubber does not differ from that in oxygen. Irradiation of unfilled sulfuric and sulfur-free vulcanizates with 10, 15, and $20 \cdot 10^6$ r lowers their break resistance and somewhat increases their relative elongation. The sulfur-free vulcanizate is decomposed more rapidly than the sulfuric vulcanizate. Irradiation of filled vulcanizates leads to a lower modulus, break resistance and slightly lower relative elongation. The swelling maximum in m-xylene and chloroform extract increases. The property changes during radiation of the sulfur-free vulcanizate are very rapid. Butylphenyl disulfide had a greater influence on the decomposition of the sulfuric vulcanizate than on that of the sulfur-free vulcanizate. The presence of oxygen affects all the properties of the filled sulfuric vulcanizate more than the vacuum. In the presence of 0.238 mole/l sulfide, the sulfur content of sulfuric vulcanizate irradiated with $20 \cdot 10^6$ r increased by 0.35 % relative to vulcanizate irradiated in the absence of sulfide. A regenerate with good plastic-elastic and physicomechanical properties was obtained from vulcanizate swelled in a solution containing 0.238 mole/l sulfide and irradiated with $25 \cdot 10^6$ and $49 \cdot 10^6$ r. In practice, oxygen does not accelerate decomposition, but only affects the chemical character

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Decomposition of butyl rubber and its...

of the decomposition products. Owing to formation of vinylidene groups, $R_1 - C = CH_2$, the infrared spectrum exhibited a band at 11.25 μ. The decomposition mechanism of butyl rubber by ionizing radiation resembles that of polyisobutylene. Sulfur-free vulcanizates decompose faster than sulfuric vulcanizates, and unfilled vulcanizates much more rapidly than filled ones. The presence of free-radical acceptors (e.g. disulfides) accelerates the decomposition of filled vulcanizates. The increased content of bound sulfur shows that addition of sulfur atoms to irradiated vulcanizate takes place. The sulfide reacts more effectively with radicals possessing free electrons at the sulfur atoms instead of the carbon atoms. Oxygen has a slight influence on the decomposition of sulfuric vulcanizates by γ-radiation. Decreased formation of branched structures in the presence of disulfide (free-radical acceptor) is assumed to be the cause of the difference in the physicomechanical properties, at equal plastic-elastic properties, of regenerates subjected to varying radiation doses. Irradiations were performed by V. T. Kozlov, coworker at the physics and chemical laboratory of the NIIShP, in the K-18000 (K-18000) apparatus of the Institute imeni Karpov. M. I. Arkhangel'skaya carried out the osmotic molecular weight determinations. There are 7 figures, 3 tables,

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Decomposition of butyl rubber and its...

and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. The three references to English-language publications read as follows: Ref. 4: R. Harrington, Nucleonics 14, No 9, 70, 1956. Ref. 5: R. L. Johnson, H. E. Adams, M. Barzan, Rubber World, 137, 73, 83, 90, 1957. Ref. 6: R. Harrington, Rubber Age, 83, 472, 1958.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of Tire Industry)

SUBMITTED: July 28, 1960

Table 1: Composition and properties of unfilled and filled butyl rubber vulcanizates. 1) composition and properties of the vulcanizates; 2) sulfuric vulcanizates; 3) sulfur-free vulcanizates; 4) unfilled; 5) filled; 6) butyl rubber; 7) stack soot; 8) furnace soot; 9) zinc oxide; 10) petrolatum; 11) stearic acid; 12) tetramethylthiuram disulfide; 13) mercapto benzothiazole; 14) p-quinone dioxime; 15) dibenzothiazole disulfide; 16) sulfur; 17) vulcanization at 151°C, min; 18) modulus at 500 % elongation, kg/cm^2; 19) break resistance, kg/cm^2; 20) relative elongation, %; 21) swelling maximum in m-xylene, %; 22) swelling maximum in benzene, %.

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DOGADKIN, B.A.; ZACHESOVA, G.N.; SHOKHIN, I.A.

Reclaiming of rubber by the dispersing method. Kauch. i rez. 20 no.12:15-21 D '61. (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Reclaimed)

DROZDOVSKIY, V.F.; SOKOLOV, S.A.; SHOKHIN, I.A.; EYTINGON, I.I.

Activators of rubber reclaiming process. Kauch. i rez. 20 no.12:22-25 D '61. (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber, Reclaimed)

S/069/61/023/002/001/008
B101/B208

AUTHORS: Dogadkin, B. A., Zachesova, G. N., and Shokhin, I. A.

TITLE: Preparation and properties of aqueous suspensions of vulcanized natural and synthetic rubber

PERIODICAL: Kolloidnyy zhurnal, v. 23, no. 2, 1961, 150-156

TEXT: The purpose of this study was to investigate the regeneration of used waste rubber by dispersion in aqueous medium. The authors applied the method devised by B. A. Dogadkin and D. M. Pevzner (Ref. 4: Author's certificate no. 29973, 30/IV 1933), in which an oleophilic emulsifier insoluble in water (fatty acid, resinic acid), and then gradually a saponifier (alkali) are added to the hydrocarbon (rubber, plastic, vulcanizate). The reclaimed product is obtained by electrolytic coagulation from the aqueous suspension. The following was studied in the present paper: 1) The effects of the emulsifiers oleic acid, colophony, β-naphthalene sulfonic acid, β-dinaphthyl-methane sulfonic acid and their sodium salts. The optimum dose was 5-10% of the rubber weight. The authors determined the particle size by means of N. A. Figurovskiy's sedimentation balance in coarse dispersions,

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and by means of an electron microscope in fine dispersions (carried out by S. A. Simanovskaya). The following results were obtained:

Emulsifier	g/100 g rubber	particle radius, μ
colophony	10	0.241
oleic acid	10	0.514
β-naphthalene sulfonic acid	5	2.045
β-dinaphthyl-methane-sulfonic acid	5	3.14
dto.	10	4.41

2) Effect of saponifier:

	NaOH	KOH	KOH	NH_4OH	NH_4OH
concentration, %	5	5	7	5	10
average particle radius, μ	0.24	0.22	0.20	is not dispersed	

No phase inversion (dispersion of the organic phase in water) occurred in NH_4OH owing to its volatility. The same result was obtained for $Na_2B_4O_7$, but this is able to replace 2/3 of the alkali, a particle radius of 0.59 μ being obtained. 3) The concentration of the alkali solution exerted the

following effect on dispersion:

concentration, %	2	5	10
time of dispersion	90	50	35 min
amount (g/100 g rubber) required for phase inversion	67-83	33	25
particle radius, μ	0.249	0.241	0.555.

4) Large particles were formed when the alkali solution was added too quickly (30 min). Slow addition (90 min) gave a fine emulsion. This is stable if the pH of dispersion is not less than 11.5-12.0. 5) The clearance between the rolls had the following effect:

clearance, mm	0.3	0.5	0.8	1.2
particle radius, μ	0.241	0.539	0.601	0.785

6)The consumption of electric energy during dispersion is compared in Fig. 6 with the amount required to plasticize the mixture. It decreases after adding the alkali solution, and approaches the no-load consumption during phase inversion. 7) Fig. 7 shows the effect of a plasticizing activator, i.e., Renatsite 2, (a preparation containing 42.5% trichloro thiophenol).

8) the behavior of various types of rubber with highly active carbon black as filler was tested on НК (NK, natural rubber); СКИ (SKI, synthetic cis-polyisoprene rubber); СКС-30АРМ (SKS-30ARM, divinyl styrene rubber), and СКБ (SKB, sodium butadiene rubber). Two groups of samples were used for the purpose: 1) samples prepared according to industrial formulas for tire rubber, 2) samples prepared according to a unified formula so that they differed only in the polymer. Table 3 presents the results. The particle radius was found to depend less on the type of polymer than on the density of the vulcanization network. However, the properties of the reclaimed products obtained by dispersion differ in the individual polymers. The authors will later report on this subject. It is mentioned that the dispersion method described has been used in 1938 at the zavod (plant) "Krasnyy treugol'nik" for the regeneration of used rubber. From 1941 onward, this method has not been applied any longer. Mention is made of F. F. Koshelev and I. A. Tartakovskiy. There are 7 figures, 3 tables, and 7 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: October 26, 1960

Legend to Fig. 6: 1) plasticizing; 2) dispersion; 3) idling; a) power consumption, w; b) min.

Legend to Fig. 7: a) content of Renatsite 2, wt%; b) mean particle diameter, μ.

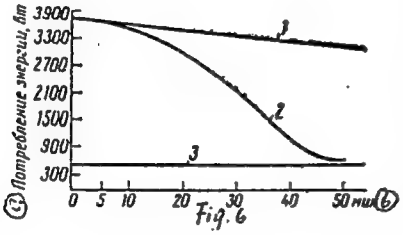

Fig. 6

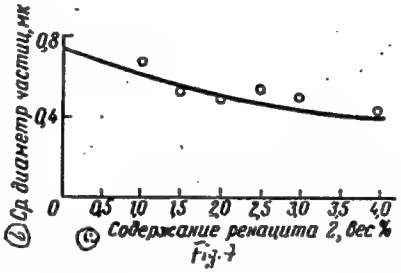

Fig. 7

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Preparation and ...

(4) Тип полимера	(1) НК		(3) СКИ		(2) СКС-30АРМ		(5) СКБ	
(6) Группы опытов	1	2	1	2	1	2	1	2
(7) Число узлов в единице объема вулканизата $\times 10^{-9}$, $мл^{-1}$	4,03	4,08	3,09	4,86	1,65	4,01	2,39	4,28
(8) Молекулярный вес участка цепи вулканизата	6000	6000	6850	6450	17 200	7050	11 550	6500
(9) Средний радиус частиц дисперсии, $мк$	0,428	0,388	0,279	0,362	0,241	0,306	0,270	0,328
(10) Удельная поверхность частиц дисперсии, $м^2/г$	6,16	7,46	8,90	7,45	10,82	8,7	9,86	8,31
(11) Расход энергии на образование единицы удельной поверхности дисперсной фазы $\times 10^{-4}$, $\frac{квт \cdot ч}{м^2/г}$	10,9	—	6,5	—	5,44	—	5,90	—

Legend to Table 3: 1) polymer; 2) NK; 3) SKI; 4) SKS-30ARM; 5) SKB; 6) group of experiments; 7) number of lattice points $\times 10^9$ per unit volume of the vulcanizate, ml^{-1}; 8) molecular weight of the section of the vulcanizate chain; 9) mean radius of disperse particles, μ; 10) specific surface of disperse particles, m^2/g; 11) power consumption per unit of specific surface of the disperse phase $\times 10^{-4}$, $kw \cdot hr/(m^2/g)$.

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SHOKHIN, I.A.; STRONGIN, M.A.

Valuable initiative of the Chekhov Reclaimed Rubber Plant.
Kauch. i rez. 20 no.9:58-59 S '61. (MIRA 15:2)
(Rubber, Reclaimed)

SHOKHIN, I. A.

S/138/62/000/008/005/007
A051/A126

AUTHORS: Berlin, R. L., Dogadkin, B. A., Zachesova, G. N., Korotkova, A. A., Linichenko, A. I., Shokhin, I. A.

TITLE: Production of foam rubber articles from latex using aqueous rubber dispersions

PERIODICAL: Kauchuk i rezina, no. 8, 1962, 14 - 16

TEXT: A method has been developed for the production of foam rubber articles with partial replacement of the latex by aqueous dispersions of old rubber or waste products from foam rubber production. The technique of old rubber dispersion was developed at the НИИШП (NIIShP), whereby the aqueous dispersion of the rubber is a polydispersed colloidal system. Dispersions prepared with colophony as the disperser and 3% aqueous solution of NaOH, as the soaping agent, were used in developing the production method of the latex mix for the foam rubber articles. The latex mix of the foam rubber, based on "revertex-standard" and СКС-50 ПГ (SKS-50PG) latex, using various types of aqueous rubber dispersions, contained potassium paraffinate, vaseline oil or its emulsion, as the foaming agent, or

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dispersion of vulcanized substances (sulfur, diphenylguanidine, cymate, zinc mercaptobenzothiazol, zinc oxide). The quantity of vulcanizing agents in the mixes was calculated according to the rubber substance of the latex. They also contained a gelatinizing solution (10 - 20% solution of ammonium chloride, 10% solution of ammonia and triethanolamine). The obtained articles met the commercial requirements. The cutting-out process caused no change in the physico-mechanical properties of the foam rubber articles. The latter retain their color when using dispersions produced from foam rubber waste products. It is concluded that by replacing 20 - 30% of the synthetic and natural latex with aqueous dispersions of rubber, the quality of the foam rubber produced by the foaming method does not drop. According to preliminary calculations, the use of aqueous dispersions of rubber in the production of foam rubber articles should offer considerable technical and economic advantages. There are 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of Rubber and Latex Articles and Scientific Research Institute of the Tire Industry)

L 15669-63 EWP(j)/EWT(m)/BDS ASD/AFFTC Pc-4 RM

ACCESSION NR: AP3004257 S/0138/63/000/007/0033/0035

AUTHORS: Drozdovskiy, V. F.; Shokhin, I. A.; Bairova, E. D. 61 58

TITLE: Destruction of monosulfide bonds of sulfur vulcanizates

SOURCE: Kauchuk i rezina, no. 7, 1963, 33-35

TOPIC TAGS: sulfur vulcanizate , regeneration, thiuram vulcanizate, zinc stearate, monosulfide bond

ABSTRACT: An attempt was made to discover the origin of the sulfur which appears as zinc sulfide in the reclamation process of vulcanized rubber. To this end the reactions taking place in the absence of oxygen between zinc stearate or zinc oxide and the ethyl ether of dibutyldithiocarbaminic acid (EDTCA), dipropylmonosulfide (DPMS), and diallylmonosulfide (DAMS) were studied. Ampules with zinc stearate and EDTCA were heated at 180C for 0.5-20 hours and at 200C for 5 hours, then the compounds were analyzed for sulfide sulfur. At 180C only an insignificant quantity of ZnS was formed, while at 200C the yield of sulfide sulfur amounted to 2%. The reaction of zinc stearate with DPMS was conducted at 200 and 220C, without any ZnS being formed. As to DAMS, it was reacted with ZnO at 143, 180,

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L 15669-63
ACCESSION NR: AP3004257

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and 200C for periods from 1 to 20 hours. While at 143C the quantity of sulfide sulfur appearing as ZnS was insignificant, at 180 and 200C it amounted to nearly 20% and 30% respectively of the total amount of sulfide sulfur originally present in the DAMS sample. It is concluded that monosulfide bonds of thiuram vulcanized rubber could be a source of sulfide sulfur, appearing as ZnS during the reclamation process). The EDTCA used in this study was synthesized by Ye. N. Gur'yanova. Orig. art. has: 2 formulas and 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promy*shlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 00 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: MA, CH NO REF SOV: 007 OTHER: 002

Card 2/2

L 14398-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM
ACCESSION NR: AP4045697 S/0138/64/000/009/0013/0014

30
29
B

AUTHOR: Shokhin, I. A.; Lerner, E. G.; Drozdovskiy, V. F.

TITLE: Mechanochemical modification of vulcanizates with high polymers

SOURCE: Kauchuk i rezina, no. 9, 1964, 13-14

TOPIC TAGS: butadiene styrene rubber vulcanizate, mechanochemical modification, poly(methylmethacrylate), reclaimed rubber, modified rubber

ABSTRACT: The paper describes the results of experiments conducted to effect a mechanochemical modification of butadiene-styrene rubber (SKS-30 ARM) vulcanizates with polyisobutylene, polyisoprene, and poly(methyl methacrylate). The modification was carried out during the reclaiming of vulcanizates on a screw devulcanizer at 180—190C, by adding 15% of the polymer in chloroform solution to crumb rubber. The experiments were conducted with filled vulcanizates (50% HAF carbon black and with unfilled vulcanizates to which 50% of the black was added. Up to 30% (optimum amount, 15%) softener (mazut) and 3%

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L 14398-65
ACCESSION NR: AP4045697

trichlorobenzenethiol were added to the mixture. The extent of the modification was evaluated from the change in weight of the reclaim portion insoluble in acetone and chloroform. It was shown that vulcanizates are not modified in the case of polyisobutylene and polychloroprene. In the case of poly(methyl methacrylate), the weight of vulcanizates increased, independently of their molecular weight, by 12—14%, which corresponds to the chemical addition of 45—51% of the polymer charged. Reclaims of HAF carbon black-filled vulcanizates contain unreacted poly(methyl methacrylate) and are very rigid. Vulcanizates of these reclaims exhibit enhanced hardness and resistance to swelling in hydrocarbons, but a lowered wear- and tear-resistance, tensile strength, and low-temperature resistance. Orig. art. has: 1 table

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promy*shlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, MT

NO REF SOV: 003 OTHER: 007

Card 2/2

SABAYEV, I.Ya.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Extraction of phosphoric acid by n-butyl and isoamyl alcohols.
Zhur. prikl. khim. 37 no. 4:874-880 Ap '64. (MIRA 17:5)

BABITSKIY, B.L.; VINITSKIY, L.Ye.; DROZDOVSKIY, V.F.; DYUBKO, L.D.; KAPLUNOV, Ya.N.; MELENT'YEVA, Z.G.; SHOKHIN, I.A.; Prinimali uchastiye: ZHIL'TSOVA, A.A.; LEVIT, R.G.; YAKOVLEV, D.A.

Effect of filling reclaimed rubber on the dielectrical properties of the reclaimed product. Kauch. i rez. 24 no.5:22-25 My '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

ROZEN, A.M.; SABAYEV, I.Ya.; SHOKIN, I.N.

Determination of the degree of hydration of extracted substances. Zhur. neorg. khim. 9 no.6:1455-1464 Je '63 (MIRA 17:8)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

BEGLOV, B.M.; SHCKIN, I.N.; KRACHENINNIKOV, S.A.

Crystallization of ammonium bicarbonate. Uzb. khim. zhur. 8 no.6: 5-10 '64. (MIRA 18:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut.

BEGLOV, B.M.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Process of crystallization of ammonium bicarbonate. Uzb.khim.zhur. 8 no.5:10-17 '64. (MIRA 18:5)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

KUKURECHENKO, I.S.; SUKHAREV, N.G.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.; PODOSINKIN, P.A.; POSTORONKO, A.I.; TROYNIK, G.G.

Decarbonization of sodium bicarbonate in a semi-industrial column with submerged packing. Trudy MKHTI no.40:186-190 '63. (MIRA 18:12)

CHOKHIN, M. V.

22415. CHOKHIN, M. V. Organizatsiya Meteorologicheskoy Sluzkby. (Glav. Botan. Sad) Byulleten' Glav. Botan. Sada, VYP. 2, 1949, S. 28-30.

SO: Letopis' No. 30, 1949